



TECHNICAL DATA

SOLENOID MONITORING SWITCH (SMS)

The Viking Corporation | 210 N Industrial Park Drive | Hastings MI 49058

Viking Special Hazards | Technical Services: 877-384-5464 | Email: techsvcs@vikingcorp.com | www.vikinggroupinc.com

The technical data described herein is for components of the Viking VSH200 and VSH1230 Clean Agent Systems.

For design, installation, and operation instructions, refer to the latest edition of the original source documents as outlined below.

VSH200: Installation and Service Manual (Part No. 932167), Design Manual (Part No. 932165), and Operation Manual (Part No. 932169).

VSH1230: Installation and Service Manual (Part No. 932159), Design Manual (Part No. 932157), and Operation Manual (Part No. 932161).

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1. GENERAL INFORMATION

The Solenoid Monitoring Switch (SMS) consists of a supervisory switch, flexible connector, and a junction box. The switch is designed for use on Viking VSH200 or VSH1230 Clean Agent Suppression Systems to meet new NFPA 2001 requirements for a Manual Extinguishant Disablement Switch.

Electrically operated releasing devices are commonly used as activating devices of a fire suppression system and NFPA 2001 requires these devices to be in place. During installation, service and inspection it is common to remove the electrically operated releasing devices and supervisory switches shall be installed to send a signal to the panel warning of system impairment if the electrically operated releasing devices are not in place.

This document provides details on the installation and use of supervisory switches for electrically operated releasing devices and release device EM for the VSH1230 / VSH200 extinguishing system unit. For the electrically operated releasing device, solenoids, PAE cylinder (release device EM) and electrically operated selector valves (release device EM) Viking supervisory switches to check if these devices are in place. These switches are electrically monitored by the Fire Alarm Control Panel / Control Unit.

- The supervisory switches are permanently monitored by the Control Panel. A short circuit or the removal of a releasing device will create a supervisory alarm condition at the Fire Alarm Control Panel / Control Unit.

- The wiring methods for the electrically operated releasing devices are to be in accordance to the installation instructions provided with the UL Listed Fire Alarm Control Panel / Control Unit for the releasing devices.



WARNING: Cancer and Reproductive Harm-
www.P65Warnings.ca.gov

2. LISTINGS AND APPROVALS



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3. TECHNICAL DATA

Materials:

Steel and PVC enclosure

Temperature Range: -22 to 140 °F (-30 to 60 °C)

Contact Rating : 1 Amp @ 24VDC



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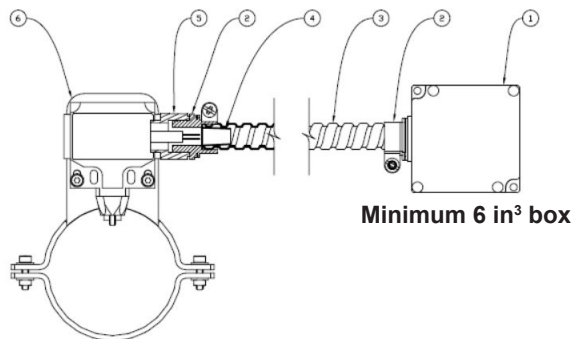


Table 1: Components - 1-1/2" Manual Release Device

Ref	Item	Size
1*	Enclosure with terminal box	--
2	Flex to NPT Squeeze connector	3/8" to 1/2"
3	Flexible metal conduit	3/8" x 24"
4	Conduit fitting bushing	3/8"
5	Nylon thread adapter	M20 x 1.5 to 1/2
6	B0482 Monitoring switch	--

* Meets UL864

Figure 1A: 1-1/2" Manual Release Device Components (932438D)

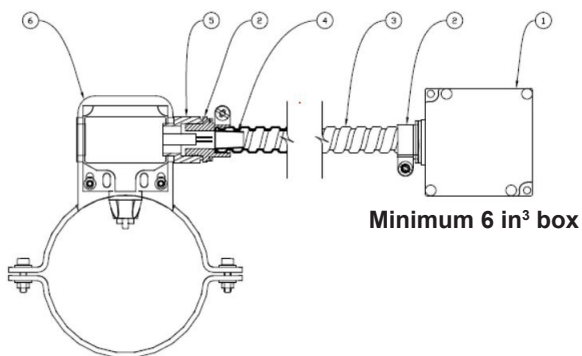


Table 2: Components - 2" Manual Release Device

Ref	Item	Size
1*	Enclosure with terminal box	--
2	Flex to NPT Squeeze connector	3/8" to 1/2"
3	Flexible metal conduit	3/8" x 24"
4	Conduit fitting bushing	3/8"
5	Nylon thread adapter	M20 x 1.5 to 1/2
6	B0481 Monitoring switch	--

* Meets UL864

Figure 1B - 2" Manual Release Device Components (932437D)

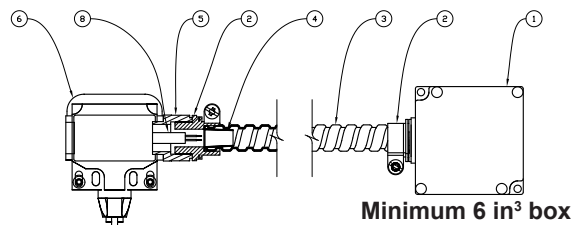


Table 2: Components - 2" Manual Release Device

Ref	Item	Size
1*	Enclosure with terminal box	--
2	Flex to NPT Squeeze connector	3/8" to 1/2"
3	Flexible metal conduit	3/8" x 24"
4	Conduit fitting bushing	3/8"
5	Nylon thread adapter	M20 x 1.5 to 1/2
6	EM Monitoring release device	--

* Meets UL864

Figure 1C - 2" Manual Release Device Components (932440D)



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4. INSTALLATION

⚠ CAUTION

SYSTEM RELEASE HAZARD

Electrically operated releasing devices or valve lever release devices must be removed prior to inspection. Failure to remove the electrically operated releasing devices or valve lever will result in system discharge.

► Read and understand the following instructions regarding mounting the releasing device.

Requirements for electrically operated releasing device accessories

Each individual electrically operated releasing device is to be provided with an UL Listed supervisory switch. The supervisory switches are to be installed by the Installer, in accordance with NFPA 2001 for all the electrically releasing devices for use with each VSH1230 / VSH200 extinguishing system unit.

The supervisory switch must provide a supervisory signal to the Fire Alarm Control Panel / Control Unit if the electrically operated releasing devices are not in place and not ready to release the fire suppression system.

The Installer must use UL certified components as junction box, flexible conduit and conduit fittings and install the system according to NFPA 70 and NFPA 72

Before starting installation, unmount electrically operated releasing devices.

⚠ WARNING

SYSTEM RELEASE HAZARD

Installation of an activated releasing device will result in system release.

► Ensure the releasing device is properly reset before installation.

NOTE: If the release device is activated (pin in released position), reset the pin before mounting the release device on the valve.

4A: Manual Release Device:

1. Install switch (Fig. 2/2) at the support (Fig. 2/3) using screws (Fig. 2/1), washers (4 pcs) and nuts (do not tighten at this point).
2. Install both parts of the support (Fig. 3/1) at the ring surface at the top of the valve (Fig. 3/2) using enclosed screws, washers and nuts. Tighten the screws with a torque of 5 ± 0.5 Nm (3.69 ± 0.37 ft-lb).
3. Install the release device (Figure 4/1) on the valve (Figure 4/2).
5. Move the switch (Fig. 5/2) away from the release device (Fig. 5/1) as far as possible.
6. Move the switch slowly to the release device until the switch is activated.
7. Move the switch 1 to 2 mm (0,039 to 0,079 inch) away from the release device.

NOTE: The switch has still been activated. If step 7 results in inactivated switch, start with step 6 and reduce length in step 7.

8. Tighten the screws with a torque of 3 ± 0.3 Nm (2.21 ± 0.22 ft-lb).

9. Check, if switch is still activated. If not, go back to step 6.

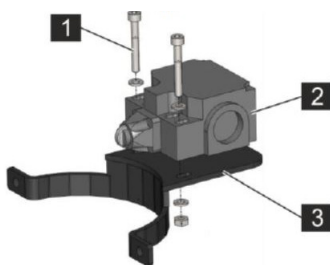


Figure 2

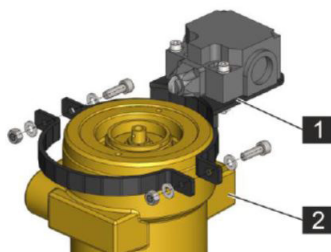


Figure 3

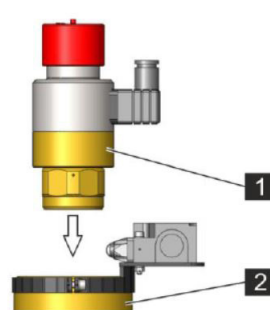


Figure 4

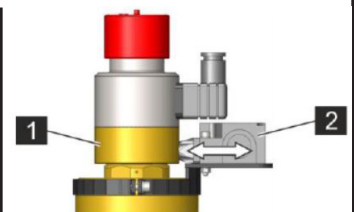


Figure 5



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4B: Pneumatic Release Device

1. Loosely fasten the limit switch (Fig. 6/2) with cylinder screws and washers (Fig. 6/1) on the holder of the EM release device (Fig. 6/3).
2. Align the limit switch (Fig. 6/2) in such a manner that the contact (Fig. 6/4) is activated with the valve lever.
3. Tighten the cylinder screws.

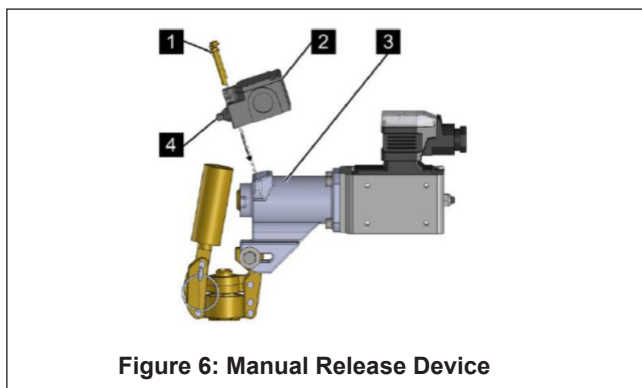


Figure 6: Manual Release Device

4C: Wiring with end of line device

⚠ WARNING

Before any functional tests, the electrically operated releasing devices must be removed from the system.

⚠ CAUTION

Before removing the electrically operated releasing devices after inspection and maintenance it is important to check the status of the Fire Alarm Control Panel / Control Unit. If the Fire Alarm Control Panel / Control Unit is in "Alarm / Discharge" mode, the mounting of the electrically operated releasing devices will result in system discharge.

⚠ CAUTION

Before removing the electrically operated releasing devices after inspection and maintenance it is also important to check if the pin of the releasing device is in the "non-released" position.

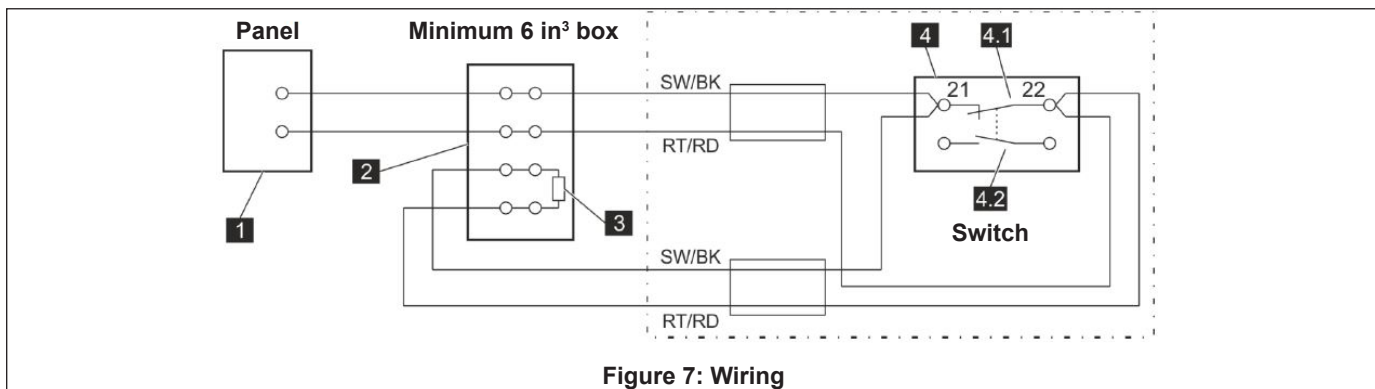


Figure 7: Wiring



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5. OPERATION/FUNCTION

Manual Release Device:

When the release device (Figure 8/1) is mounted on the valve (Figure 8/4), the switch (Figure 8/2) of the monitor (Figure 8/3) is actuated. When the release device is disassembled, the switch is not actuated and transmits a signal to the fire alarm and extinguishing control panel. There, the non-existence of external electrical release device is indicated as a fault.

The monitor is factory-equipped with a cable.

Pneumatic Release Device:

The monitoring (Fig. 9/1) of the EM release device enables electrical monitoring of the position of the valve lever. As soon as the EM release device is activated an appropriate signal is relayed to the fire extinguishing detection system. This also occurs if the pilot cylinder has been activated manually via the valve lever, or if the valve lever has been removed.

The monitoring is factory-equipped with a cable.

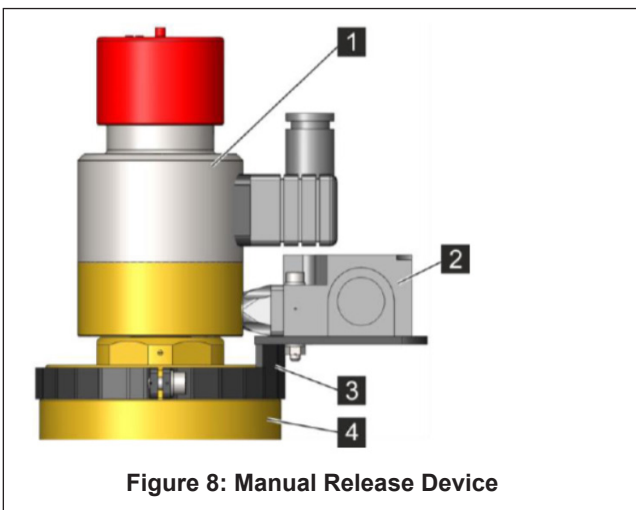


Figure 8: Manual Release Device

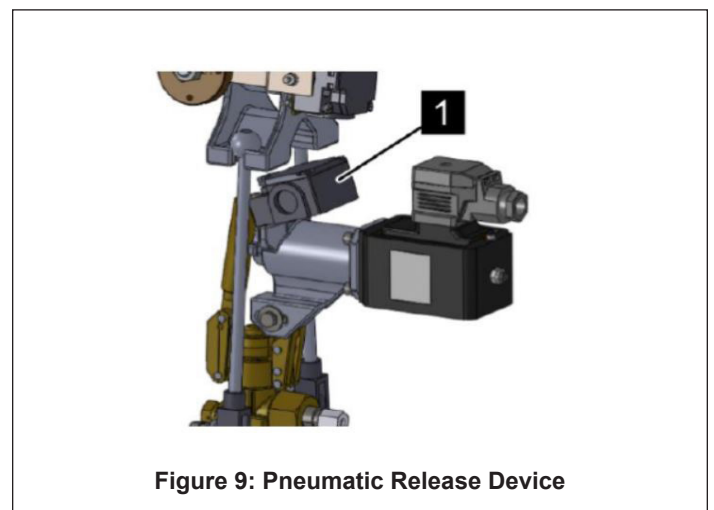


Figure 9: Pneumatic Release Device

6. INSPECTIONS, TESTS AND MAINTENANCE

The Viking Solenoid Monitoring Switch complies with NFPA 2001:

- Specifying a physical means to monitor the removal of an electric actuator.
- Removal shall result in audible and visual indication at the control panel.

7. AVAILABILITY

The Viking Solenoid Monitoring Switch is available through The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.